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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/395,935	09/14/1999	HIROAKI KOSEKI	991014	6682

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EXAMINER
ROSENDALE, MATTHEW L

ART UNIT	PAPER NUMBER
2612	5

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/395,935	KOSEKI ET AL.	
	Examiner	Art Unit	
	Matthew L Rosendale	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3,4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 9, 11, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson US Pat No 6,177,958.

Referring to claim 1, Anderson '958 discloses an image pickup apparatus in figure 3 capable of taking images of the same object at a plurality of different exposure amounts defined by Anderson '958 as Salient images. The Salient images are combined to generate a single image having a wide dynamic range.

Anderson '958 also discloses an image capture method shown in figures 11A and 11B comprising a mode control means 1402 and 1406 for selecting between a normal image taking mode of generating image data from one frame, and a means of producing a wide dynamic image having proper exposure 1407 by automatically detecting the need for capturing Salient images when the control means 1404 detects a high contrast scene (Col. 9, Line 66 – Col. 11, Line 32).

2. Referring to claim 9, Anderson '958 discloses an image pickup apparatus in figure 3 capable of taking images of the same object at a plurality of different exposure amounts defined

by Anderson as Salient images. The Salient images are combined to generate a single image having a wide dynamic range and corrected exposure amounts.

Anderson '958 also discloses an image capture method shown in figures 11A and 11B comprising a mode control means 1402 and 1406 for selecting between a normal image taking mode of generating image data from one frame, and a means of producing a wide dynamic image having proper exposure 1407 by automatically detecting the need for capturing Salient images when the control means 1404 detects a high contrast scene (Col. 9, Line 66 – Col. 11, Line 32). Figure 6C of Anderson '958 shows an LCD viewing area 302 of the camera used to display the ON/OFF operation status of the Salient image capture mode. Anderson discloses that operation warning indicators can be in the form of text warnings in the text area 640, an indicator light 650, or an audio warning not shown on the display 302 (Col. 6, Line 51 – Col. 7, Line 4).

3. Referring to claim 11, Anderson '958 discloses an image pickup apparatus in figure 3 capable of taking images of the same object at a plurality of different exposure amounts defined by Anderson as Salient images. The Salient images are combined to generate a single image having a wide dynamic range and corrected exposure amounts.

Anderson '958 also discloses an image capture method shown in figures 11A and 11B comprising a mode control means 1402 and 1406 for selecting between a normal image taking mode of generating image data from one frame, and a means of producing a wide dynamic image having proper exposure 1407 by automatically detecting the need for capturing Salient images when the control means 1404 detects a high contrast scene (Col. 9, Line 66 – Col. 11, Line 32).

Figure 6C of Anderson '958 shows an LCD viewing area 302 of the camera used to display the ON/OFF operation status of the Salient image capture mode. Anderson discloses that operation warning indicators can be in the form of text warnings in the text area 640, an indicator light 650, or an audio warning not shown on the display 302 (Col. 6, Line 51 – Col. 7, Line 4).

4. Referring to claim 18, Anderson '958 discloses an AE device comprising means for controlling exposure amounts to an image pickup device by capturing a plurality of Salient images ranging from under to over exposed to synthesize the images into a single image having a wide dynamic range. Anderson '958 also discloses means for setting a plurality of different exposure amounts to capture a wide range of Salient images. Proper exposure information is acquired from the Salient images and a synthesized image is produced by deciding a proper exposure amount and combining the Salient images (Col. 9, Line 66 – Col. 11, Line 32).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 2 –7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson US Pat No 6,177,958 in view of Ohta.

Referring to claim 2, Anderson '958 discloses a means of capturing a plurality of images having different exposure values to produce a synthesized wide dynamic image, but there is no

means disclosed by Anderson for determining whether or not the Salient images can be properly captured or that the synthesized image can be produced.

Ohta discloses a camera having a pre-photography warning system that displays indicators to the user or used audio warnings denoting that the current photography or camera conditions are not suitable for image capture. The warnings disclosed by Ohta range from improper white balance to low memory capacity and are all obtained before the taking of the image (Paragraph 0136).

Therefore it would have been obvious to use the warning system of Ohta with the image capture system of Anderson '958 so as to ensure there is enough memory to capture the plurality of Salient images and that the photography conditions are setup correctly so that the image is captured with proper lighting and white balance.

6. Referring to claim 3, Anderson '958 discloses a means of capturing a plurality of images having different exposure values to produce a synthesized wide dynamic image, but there is no means disclosed by Anderson for determining whether or not the Salient images can be captured or that the synthesized image can be produced.

Ohta discloses a camera having a pre-photography warning system that displays indicators to the user or used audio warnings denoting that the current photography or camera conditions are not suitable for image capture. The warnings disclosed by Ohta range from deficient lighting to low memory capacity and are all obtained before the taking of the image (Paragraph 0136).

Therefore it would have been obvious to use the warning system of Ohta with the image capture system of Anderson '958 so as to ensure there is enough memory to capture the plurality of Salient images and that the photography conditions are setup correctly so that the image is captured with proper lighting.

7. Referring to claim 4, the display means of Ohta displays the warning indicators as a type of "Not Good" information indicating that the current photography conditions are poor or there is a lack of memory space for recording captured image data (Paragraph 0136).

8. Referring to claim 5, Ohta discloses that when the memory indicator determines that there is not enough room in the remaining memory for image capture, a number "0' is displayed on a 7 segment display 32 shown in figure 7indicating the number of images that can be stored in the current free memory.

9. Referring to claim 6, Ohta discloses that when the memory indicator determines that there is not enough room in the remaining memory for image capture, a number "0' is displayed on a 7 segment display 32 shown in figure 7indicating the number of images that can be stored in the current free memory.

10. Referring to claim 7, Anderson '958 discloses an image pickup apparatus in figure 3 capable of taking images of the same object at a plurality of different exposure amounts defined

by Anderson '958 as Salient images. The Salient images are combined to generate a single image having a wide dynamic range.

Anderson '958 also discloses an image capture method shown in figures 11A and 11B comprising a mode control means 1402 and 1406 for selecting between a normal image taking mode of generating image data from one frame, and a means of producing a wide dynamic image having proper exposure 1407 by automatically detecting the need for capturing Salient images when the control means 1404 detects a high contrast scene (Col. 9, Line 66 – Col. 11, Line 32).

Anderson '958 discloses a means of capturing a plurality of images having different exposure values to produce a synthesized wide dynamic image, but there is no means disclosed by Anderson for determining whether or not the Salient images can be captured or that the synthesized image can be produced.

Ohta discloses a camera having a pre-photography warning system that displays indicators to the user or used audio warnings denoting that the current photography or camera conditions are not suitable for image capture. The warnings disclosed by Ohta range from deficient lighting to low memory capacity and are all obtained before the taking of the image (Paragraph 0136).

Therefore it would have been obvious to provide the pre-photography warning system with the image capture system of Anderson '958 so as to alert the user that the photography conditions are poor so the user may make the necessary changes to the object scene to ensure a proper image capture.

Ohta discloses various warnings displayed to the user concerning photographic operation of the camera. Ohta dos not display the exact word "inconsistency" when the warning system

determines that the photographic or camera conditions are not suitable for photography. One of ordinary skill in the art would recognize that any type of warning could be used to notify the user that conditions to photographing a scene are not good.

Therefore it would have been obvious to use any type of warning including the word "inconsistency" to denote that photographic conditions are not suitable and the user must make necessary changes in the object scene or the camera to make them constant of a normal photography condition.

11. Referring to claim 13, Anderson '958 discloses a means of capturing a plurality of images having different exposure values to produce a synthesized wide dynamic image, but there is no means disclosed by Anderson for determining whether or not the Salient images can be captured or that the synthesized image can be produced.

Ohta discloses a camera having a pre-photography warning system that displays indicators to the user or used audio warnings denoting that the current photography or camera conditions are not suitable for image capture. The warnings disclosed by Ohta range from deficient lighting to low memory capacity and are all obtained before the taking of the image (Paragraph 0136).

The directing of a change in the setting parameter of the deficient lighting of Ohta is implied. If the camera of Ohta indicates that there is deficient lighting, the user would deploy the flash or provide more exterior object scene lighting to compensate. Therefore, directing a photographer that there is deficient lighting is directing a change in the parameter setting.

12. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai in view of Anderson US Pat No 6,215,523.

Referring to claim 8, Tsai discloses storing a plurality of frames having different exposure values along with their exposure ratios to a normal exposure N shown in the Framestore 200 in figure 2. Tsai does not disclose a means of displaying the exposure ratios.

However, Anderson '530 discloses a review mode in figure 8 that allows the user to view thumbnails 700 of captured images in a frame memory. Each image when enlarged 704 is accompanied with identifier information 708 used to distinguish that particular image (Col. 10, Line 39 – Col. 11, Line 23). .

Therefore it would have been obvious to one of ordinary skill in the art to use the review mode of Anderson '523 with the image capture method of Tsai so as to review the plurality of images having different exposure levels using the exposure ratio information as each image's identifier so that the user can determine whether or not the proper exposure range of an object scene has been captured to generate a composite image having a wide dynamic range and proper exposure.

13. Referring to claim 14, Referring to claim 8, Tsai discloses storing a plurality of frames having different exposure values along with their exposure ratios to a normal exposure N shown in the Framestore 200 in figure 2. Images denoted with N – a number are darker, underexposed images. Images denoted with N + a number are overexposed bright images. Tsai does not disclose a means of displaying the image data along with the brightness information.

However, Anderson '530 discloses a review mode in figure 8 that allows the user to view thumbnails 700 of captured images in a frame memory. Each image when enlarged 704 is accompanied with identifier information 708 used to distinguish that particular image (Col. 10, Line 39 – Col. 11, Line 23). .

Therefore it would have been obvious to one of ordinary skill in the art to use the review mode of Anderson '523 with the image capture method of Tsai so as to review the plurality of images having different exposure levels using the exposure ratio brightness information as each image's identifier so that the user can determine whether or not the proper exposure range of an object scene has been captured to generate a composite image having a wide dynamic range and proper exposure.

14. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai in view of Anderson US Pat No 6,177,958.

Referring to claim 10, Tsai discloses an image pickup apparatus capable of taking images of the same object at a plurality of different exposure amounts to generate image signals corresponding to a plurality of frames of different exposure amounts to generate a composite image having a wide dynamic range by synthesizing images signals of the plurality of frames having different exposure amounts.

Tsai also discloses a means of detecting motion in an image and correcting the motion if found to be in an allowable range for correction (Col. 2, Line 63 – Col. 4, Line 65).

Tsai does not disclose a means of displaying the operation status of the motion correction means. However Figure 6C of Anderson '958 shows an LCD viewing area 302 of the camera

used to display the ON/OFF operation status of the Salient image capture mode. Anderson discloses that operation warning indicators can be in the form of text warnings in the text area 640, an indicator light 650, or an audio warning not shown on the display 302 (Col. 6, Line 51 – Col. 7, Line 4).

Since the motion correction means is an integral part of the wide dynamic range capture mode of Tsai it would have been obvious to provide an indicator as disclosed by Anderson '958 to alert the user that there is motion in the image so that photography direction can be administered to the object scene to produce as little motion as possible to ensure a high quality image capture.

15. Claims 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson US Pat No 6,177,958 in view of Ikeda.

Referring to claim 12, Anderson '958 discloses an image pickup apparatus in figure 3 capable of taking images of the same object at a plurality of different exposure amounts defined by Anderson as Salient images. The Salient images are combined to generate a single image having a wide dynamic range and thus correcting the object image to have proper exposure (Col. 9, Line 66 – Col. 11, Line 32).

Figure 6C of Anderson '958 shows an LCD viewing area of the camera apparatus. A display means 660 is provided in the LCD viewer 302 for displaying captured image data but it is not specified that the synthesized images be displayed therein. However providing a means of displaying the synthesized data is well know as taught by Ikeda. Ikeda discloses a method of

capturing images of the same object having different exposure amounts, then combining the bracketed images into a single synthesized image to be displayed on a monitor. (Col. 1, Lines 16-21)

Therefore, it would have been obvious to display the synthesized image on the image display of Anderson '958 so that the user may preview the final product of the Salient image capture mode to ensure that the image has been captured with the proper exposure.

16. Claims 15 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson US Pat No 6,177,958 in view of Anderson US Pat No 6,215,523.

Referring to claim 15, Anderson '958 discloses an image pickup apparatus in figure 3 capable of taking images of the same object at a plurality of different exposure amounts defined by Anderson as Salient images. The Salient images are combined to generate a single image having a wide dynamic range and thus correcting the object image to have proper exposure (Col. 9, Line 66 – Col. 11, Line 32).

Figure 8B of Anderson '958 shows the captured image data is divided into a plurality of desired regions. Luminance information is extracted from each of the plurality of areas to detect high contrast (Col. 7, Lines 49 – 67).

An exposure mechanism is employed as stated earlier to adjust the amounts of exposures of the plurality of images in a range of exposure values to achieve a range of luminance levels in the captured images suitable to combine the Salient images to form a composite image having wide dynamic range and proper exposure.

Anderson '958 discloses that the Salient images are grouped together and stored in memory in a file folder for further processing. Anderson '958 also discloses a display means but does not explicitly state that the Salient images are displayed to the user on the display means.

However, Anderson '523 discloses a means of displaying images stored in a file folder for user review. As shown in figure 8, a user enters a review mode and can view multiple images 700 on the LCD display area to determine if the captured images are acceptable (Col. 10, Line 39 – Col. 11, Line 23). .

Therefore it would have been obvious to combine the image review mode of Anderson '523 with the Salient image capture of Anderson '958 to provide the user with a means of reviewing captured Salient images to ensure that the proper range of exposures were used in capturing the Salient images to create a composite image having a wide dynamic range.

17. Referring to claim 16, Anderson '958 discloses that the user may define any zones necessary to properly partition a Salient image (Col. 7, Lines 49 – 57). One of ordinary skill in the art would recognize that in analyzing a plurality of images of the same object scene, it would be ideal to maintain the same image zones for each image so the exposures in each area can be directly correlated.

Therefore it would have been obvious to lock the plurality of exposure zones from a previous set so that the exposure correction may perform a uniform analysis on each Salient captured image to produce a proper exposure value for each region of the object scene.

18. Referring to claim 17, Anderson '958 discloses an image pickup apparatus in figure 3 capable of taking images of the same object at a plurality of different exposure amounts defined by Anderson '958 as Salient images. The Salient images are combined to generate a single image having a wide dynamic range and thus correcting the object image to have proper exposure (Col. 9, Line 66 – Col. 11, Line 32).

Anderson '958 discloses that the Salient images are grouped together and stored in memory in a file folder for further processing. Anderson '958 also discloses a display means in figure 6C, but does not disclose that the Salient images are displayed in the display area of the LCD.

However, Anderson '523 discloses a means of displaying images stored in a file folder for user review. As shown in figure 8, a user enters a review mode and can view multiple images 700 on the LCD display area to determine if the captured images are acceptable (Col. 10, Line 39 – Col. 11, Line 23).

Therefore it would have been obvious to combine the image review mode of Anderson '523 with the Salient image capture of Anderson '958 to provide the user with a means of reviewing captured Salient images to ensure that the proper range of exposures were used in capturing the Salient images to create a composite image having a wide dynamic range.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Parulski discloses a warning system that alerts the user when a photography condition in the object scene or in the camera is unsuitable for normal imaging.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew L Rosendale whose telephone number is (703) 305-4909. The examiner can normally be reached on Monday - Friday 8: 00am-4: 00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is (703) 306-0377.

MLR
July 14, 2003

NGOC-YEN VU
PRIMARY EXAMINER